

## INSERTION STRUCTURE OF PARTITIONING SLAT OF A RECEPTACLE

### BACKGROUND OF THE INVENTION

The present invention is related to a partitioning structure, and more particularly to an insertion structure of partitioning slat of a receptacle.

A receptacle such as a drawer generally has a rectangular interior space. Various kinds of articles are collectively placed in the interior space. After the receptacle is transferred or the articles in the receptacle are moved, it often takes place that the articles are tangled or overlapped with each other. As a result, a user can hardly find a necessary article from the tangling articles. Also, the interior space of the receptacle is wasted.

In order to solve the above problems, in some receptacles, two opposite sides of the receptacle are formed with several insertion channels at intervals. Two ends of a partitioning plate are inserted in the insertion channels to partition the interior space of the receptacle. A user can conveniently place different sorts of articles in different compartments. However, it is troublesome and complicated to manufacture the receptacle with the insertion channels on two opposite sides. Therefore, it is hard to mass-produce the receptacles.

Figs. 1, 2 and 3 show a receptacle partitioning structure including four slat bodies 91 which are independently made and disposed along inner edges of the receptacle 92. Each slat body 91 is formed with several insertion channels at intervals. Two ends of a partitioning plate 93 are inserted in the insertion channels. Such slat body and partitioning plate can be mass-produced and can be added to

those receptacles which are originally formed without any insertion channel. The partitioning plate 93 is downward inserted into the insertion channels of the slat body 91 in different positions so as to vary the space for accommodating different sorts of articles. However, the partitioning plate 93 is not fixedly connected or engaged with the slat body. Therefore, when a user takes out an article or the partitioning plate suffers an unexpected external force, it often takes place that the partitioning plate 93 is detached from the insertion channels. This leads to trouble in use of such partitioning plate 93.

#### SUMMARY OF THE INVENTION

It is therefore a primary object of the present invention to provide aN insertion structure of partitioning slat of a receptacle. The structure is firm and easily detachable for varying the interior space of the receptacle for accommodating different sorts of articles.

According to the above object, the insertion structure of the partitioning slat of the receptacle includes a pair of first assembling bodies, a pair of second assembling bodies and a first partitioning slat. The first assembling bodies are oppositely disposed in the receptacle at intervals. A middle section of each first assembling body is formed with at least one first insertion slit. The second assembling bodies are disposed in the receptacle and positioned between two ends of the first assembling bodies. Two ends of the first partitioning slat are respectively formed with two first insertion bodies for inserting in the first insertion slits.

The present invention can be best understood through the following description and accompanying drawings wherein:

## BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective exploded view of a conventional receptacle partitioning structure;

Fig. 2 is a perspective assembled view of the conventional receptacle partitioning structure;

Fig. 3 is a sectional view taken along line I-I of Fig. 2;

Fig. 4 is a perspective exploded view of a first embodiment of the present invention;

Fig. 5 is a perspective assembled view of the first embodiment of the present invention;

Fig. 6 is a sectional view taken along line II-II of Fig. 5; and

Fig. 7 is a partially sectional view of a second embodiment of the present invention.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please refer to Figs. 4 to 7. The insertion structure 1 of partitioning slat of the receptacle of the present invention includes a receptacle 12, a pair of first assembling bodies 14, a pair of second assembling bodies 16 and a first partitioning slat 18.

The receptacle 12 is a rectangular solid body composed of a bottom board and four sideboards. The receptacle 12 defines an interior space and has an upper opening.

The pair of first assembling bodies 14 are slat bodies with predetermined

length. The pair of first assembling bodies 14 are oppositely disposed on inner side of the bottom board of the receptacle 12 at intervals. The middle section of the first assembling body 14 is formed with at least one vertical first insertion slit 42.

The pair of second assembling bodies 16 are slat bodies with predetermined length. Each second assembling body 16 is positioned between two ends of the first assembling bodies 14 to form a rectangular frame.

The first partitioning slat 18 has a length equal to the distance between the first assembling bodies 14. Two ends of the first partitioning slat 18 are respectively formed with two first insertion bodies 82 for inserting in the first insertion slits 42. Each first insertion body 82 includes a first fitting section 821 and a first projection 822.

The first fitting section 821 is a polygonal block outward extending from one end of the first partitioning slat 18. The first fitting section 821 is fitted through a corresponding first insertion slit 42.

The first projection 822 upward extends by a certain height from one end of the first fitting section 821 in a direction of the short side of the first partitioning slat 18. The first projection 822 is engaged with a corresponding first assembling body 14.

The first and second assembling bodies 14, 16 are first placed on inner edges of the receptacle 12. Then the first insertion bodies 82 of two ends of the first partitioning slat 18 are downward inserted into the corresponding first insertion slits 42. The first fitting sections 821 prevent the first partitioning slat 18 from falling down. The first projections 822 make the first partitioning slat 18 uneasy to detach from the

first insertion slit 42. Reversely, when disassembling the structure, the first and second assembling bodies 14, 16 and the first partitioning slat 18 are taken out from the receptacle 12. At this time, the first partitioning slat 18 will easily downward slip out. The first and second assembling bodies 14, 16 and the first partitioning slat 18 can be re-assembled to vary the space for accommodating articles.

According to the above arrangement, the insertion structure 1 of partitioning slat of the receptacle of the present invention has the following advantages:

1. The present invention can vary the space of the receptacle for accommodating different sorts of articles. Moreover, the present invention has firm structure.
2. The structure of the present invention can be readily and conveniently disassembled without using any tool.
3. The present invention can be mass-produced to lower the manufacturing cost.

The upper and lower sides of the first fitting section 821 abut against the corresponding first assembling body 14 so that the structure is firmer.

The distance between upper end of the first projection 822 and the inner side of the bottom board of the receptacle 12 is larger than the distance between upper end of the first insertion slit 42 and the inner side of the bottom board of the receptacle 12.

The middle section of the second assembling body 16 is further formed with at

least one vertical second insertion slit 62. The middle section of the first partitioning slat 18 is formed with at least one split 84 having an open end. The present invention further includes a second partitioning slat ( not shown ) with a certain length. The second partitioning slat has a shape similar to that of the first partitioning slat 18.

The second partitioning slat has a length equal to the distance between the second assembling bodies 16. Two ends of the second partitioning slat are respectively formed with two second insertion bodies for inserting in the second insertion slits 62. The middle section of the second partitioning slat is formed with at least one split having an open end for inserting into the split 84 of the first partitioning slat. Accordingly, the first partitioning slat 18 and the second partitioning slat latitudinally and longitudinally intersect each other to partition the interior space of the receptacle into more compartments. The second insertion body includes a second fitting section and a second projection.

The second fitting section is a polygonal block outward extending from one end of the second partitioning slat. The second fitting section is fitted through a corresponding second insertion slit 62.

The second projection upward extends by a certain height from one end of the second fitting section in a direction of the short side of the second partitioning slat. The second projection is engaged with a corresponding second assembling body 16.

The upper and lower sides of the second fitting section abut against the corresponding second assembling body 16 so that the structure is firmer.

The distance between upper end of the second projection and the inner side of

the bottom board of the receptacle 12 is larger than the distance between upper end of the second insertion slit 62 and the inner side of the bottom board of the receptacle 12.

The above embodiments are only used to illustrate the present invention, not intended to limit the scope thereof. Many modifications of the above embodiments can be made without departing from the spirit of the present invention.